

Studies of Some Pipunculidae from the Eastern United States (Diptera).

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This paper is the results of a study of a small collection sent to me by Mr. C. W. Johnson, of the Boston Society of Natural History, for determination. It is rarely the case when a collection of this family is studied, that there are not some new forms brought to light. So we find, even in this small amount of material, a new species and several of the opposite sex of those heretofore described. This paper should be used in conjunction with my monograph of this family (1) to which I often refer. I wish here to acknowledge my indebtedness to Mr. C. W. Johnson for the loan of his type of *P. fallipes* and other specimens, and especially to Dr. P. P. Calvert for his kindness in examining the type of *lateralis* Walker in the British Museum of Natural History, and to Mr. E. E. Austen for granting Dr. Calvert the privilege to examine this type for me.

Mr. Nathan Banks, while in London during his attendance at the Second International Entomological Congress, made a few notes on Walker's types of *lateralis*, *reipublicae* and *translatus*, but not having made an especial study of this group and having no specimens along for comparison, he unfortunately did not consider many of the most important characters in his notes and sketches. However, they give some new light upon these species, especially *lateralis*, and as he kindly turned over these notes to me, I am indebted to him mainly for the results here obtained relative to these species.

Pipunculus affinis Cresson.

One male, Buena Vista, N. J., July 10th.

Agrees with the description but the stigma is less than one-half as long as the following section.

In my typical description of this species (2) the “;” after

(1) Trans. Amer. Ent. Soc. XXXVI, 267-329. pls. v-ix, 1911.

(2) Trans. Amer. Ent. Soc. XXXVI, 283.

"more or less developed" in the 14th line from the top of the page should be omitted.

P. globosus n. sp.

Allied to *P. aequus* Cress., but the antennae are black; legs black except knees and extremities of tibiae; ovipositor short, yellow, with black, globose base. Front subopake, shining only at vertex, becoming silvery towards antennae, with an evident, narrow, median shining stripe; antennae abruptly long acuminate (Fig. 12) (1). Mesonotum subopake, brown, lateral margins cinereous, anterior angles more silvery; scutellum cinereous; humeri yellowish; pleurae and metanotum cinereous; halteres brown. Abdomen elongate, subparallel laterally, subopake, brownish with lateral angles of segments cinereous; first segment with small lateral comb of black bristles; fifth and sixth subequal, longer than fourth. Ovipositor short, reaching only to apex of fourth, yellow, abruptly attenuating from a rather small shining black, globose base (similar to Fig. 81). Nearly all tarsi yellow. Wings hyaline, stigma equalling 4th section, fifth, one and a half times fourth; fourth vein simple. Length 3 mm., wing 4 mm.

Type Locality.—Buttonwoods, R. I.

Type.—Female, collected July 25, 1911. In the collection of the Boston Society of Natural History.

P. fuscus Loew.

In the 14th line from the top of the page (3) of my description, the "humeri" should be black instead of "yellow," thus reading, humeri black and halteres yellow.

P. biscaynei n. sp.

Antennae with third joint yellow, long white acuminate; humeri black; abdomen subopake to opake, densely cinereous laterally; ovipositor extending to base of abdomen, yellow, gradually tapering from an elongate globose base; 6th segment of abdomen slightly longer than 5th; legs entirely yellow; stigma colored, equalling following section and shorter than 5th section; fourth vein forked.

Seemingly allied to *P. brevis* Cress., but differing from the description of that species (I have not the type before me) as follows: Front mostly shining black, only silvery a little above the antennae, constricted towards vertex; occiput normal; knob of halteres entirely yellow. Abdomen subopake to opake; first, lateral and ventral margins of 2-4, 5th except a median stripe, and entire 6th segments, densely cinereous, the dark portions subopake, brown pruinose; 5th segment

a little longer than 6th; ovipositor reaching base of abdomen. Legs, except coxæ, entirely yellow; femora spinose only beneath. Wings long, hyaline; colored stigma equalling 4th section; 5th section about $1\frac{1}{2}$ times the stigma in length; 4th vein with fork. Length, 3 mm. Wings 4 mm.

Type Locality.—Biscayne Bay, Fla. Mrs. Slosson, Collector.

Type.—Female in the Collection at the Academy of Natural Sciences of Philadelphia. No. 5255.

P. constrictus Banks.

A male and a female from Florida possessing all the characters of this species, according to the description of the type, which is a male, with the exception of the constriction of the abdomen. It seems that this peculiarity may be an abnormality possessed by the type specimen. The male above referred to, is from St. Augustine and is the specimen noted under *P. houghi* Kert. in this paper, as Dr. Hough's determination of Walker's *lateralis*. It is no doubt Bank's species, or a very close ally (I have not the type of *constrictus* before me). The female is from Biscayne Bay, collected by Mrs. Slosson, and agrees with the male with few exceptions: The front is narrower at the vertex, shining black except just above the antennae where it is silvery; the antennae are acuminate.

P. houghi Kertz. (*lateralis* Walk. non. Macq.).

femoratus Cress. Tr. Am. Ent. Soc., XXXVI, 302, 1911.

As is generally the case, little or no satisfaction can be derived from the study of Walker's descriptions, and so we find, in this family, that his description of *lateralis* applies equally well to several species having yellow legs and shining abdomen. In my former paper (4) I considered Johnson's *pallipes* to be the same as Walker's species, but Mr. Johnson would not have it so, and therefore he loaned me the type of his species, also a specimen from St. Augustine, Florida, which he had, and which he said had been examined by Dr. Hough and Mr. Coquillett, and considered by them to be *lateralis*. Of course, having this specimen before him as *lateralis*, he was right in his denials. The most important difference be-

tween these two, is the forking of the fourth vein in the St. Augustine specimen. Therefore according to our present classification, this would throw these two into entirely separate groups, although I am rather doubtful that this character is of so much importance as that. The question then arose, is this Florida specimen a true *lateralis*? Dr. Calvert's sketch of the wing and Mr. Banks' notes, and sketch of the ovipositor, for the type is a female, at once settled this query and revealed the fact that we have an entirely different species, in *lateralis* Walker than we had surmised. The fourth vein is normal, not forked, the ovipositor is long, and tapering from an elongate base, and the post-femora are thickened and spinose. This at once suggests my *femoratus*; in fact, I do not hesitate to consider them synonymous.

Therefore my determinations as *houghi* Kertz., should be changed to *pallipes* Johns, and those as *femoratus* Cress. changed to *houghi* Kertz.

P. pallipes Johnson.

houghi (Kertz.) Cress. Tr. Am. Ent. Soc., XXXVI, 308, 1911.

Before me is another female of this species from Ithaca, N. Y., August 14, 1904 (C. W. Johnson), which varies a little from the description of this species given in my previous paper referred to (4). The upper half of the front is polished; second antennal joint black; abdomen rather obscurely shining, finely granular, with segments 2-4 distinctly yellow laterally; joints of the post tarsi not noticeably flattened or serrated.

P. reipublicae Walker.

Mr. J. R. Malloch, of the Bureau of Entomology at Washington (5), thinks that this species may be the same as *P. atramontensis* Banks (6) on account of the coloration of the femora. From the notes and sketch made by Mr. Banks, of Walker's type, the abdomen is broad, with the hypopygium large, which characters would seem to indicate *albofasciatus* Hough, rather than Bank's species; the latter having a moder-

(4) Trans. Amer. Ent. Soc., XXXVI, 308.

(5) Proc. U. S. Nat. Mus., XLIII, Hod, 291, 1912.

(6) Trans. Am. Ent. Soc., XXXVI, 312, 1911.

ately slender abdomen and a less developed hypopygium. As to the coloration of the legs, those of Walker's type may have been bleached or faded, leaving only the base of the femora black. I am inclined to consider *albofasciatus* rather than *atramontensis* as the synonym.

P. translatus Walker.

Evidently belonging to the *subvirescens* group, in which case a very close examination is necessary to establish its true position, but it will probably prove to be *subvirescens* Lw. The type is a male with the head missing.

P. subvirescens Loew.

Upon examining a female from Opelousas, La., June, '97, determined by Dr. Hough as this species, the following are noted: Similar in most respects to *similis* Hough, as I have described (7), but the abdomen is more cylindrical, not apparently ovate or flattened on the dorsum, and the incisures are not constricted; bare, and the black hairs not noticeable apically; femora and trochanters without basal bristles; otherwise I can see no difference. There may be a possibility that in associating the sexes of these species in my previous paper I have transposed the males or females of this species and *similis*, if any importance can be placed upon the bristles at the base of the femora. *Subvirescens* male has these present, but they are weak or absent in the male of *similis*, according to my determinations, while with the females, as I have them distributed, it is just the reverse.

P. appendipes Cresson.

One female. Tifton, Ga., Sept. 30, '96.

This specimen agrees with the typical description of the female of this species, except that the abdomen here is not quite shining, seeming to be minutely granular. This is one of the difficult *subvirescens*-group, and it is almost impossible to satisfactorily determine some of the species, especially those without the peculiar characters which many possess, and it will take large series and much study to straighten out this group especially as to the females.

(7) Trans. Amer. Ent. Soc., XXXVI, 315.